

U.S. Application No. 09/504,740
Reply to Office Action of August 10, 2005

PATENT
450100-02317

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Previously Presented) A video recording apparatus comprising:

composite video image generating means for generating reduced signal video images, each comprising less than a complete screen by reducing the number of pixels to be displayed of each of a plurality of video images supplied from frames of each of a plurality of input data streams, a frame from only one of each of said plurality of input data streams being supplied at a time, and generating a composite video image by compositing the generated reduced video images in a substantially non-overlapping manner;

additional information generating means for generating additional information for each of the supplied video images;

dividing means for dividing a memory of said recording apparatus into a plurality of blocks, each of said plurality of blocks having a reduced video image, said reduced video image of each block being a composite of images from each of said plurality of input streams;

recording means for recording the composite video image and the additional information onto a predetermined recording medium in such a manner of maintaining the correspondence between each of the reduced video images included in the composite video image and each additional information; and

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recording mode switching means for switching the recording from recording the composite video image to a full recording mode for recording one of said video images when a predetermined condition for said one of said video images is met.

2. (Original) The video recording apparatus according to claim 1,
wherein the composite video image generating means performs a predetermined image compression to a video image obtained by combining the reduced video images and outputs the compressed video image as the composite video image.

3. (Original) The video recording apparatus according to claim 1,
wherein the predetermined recording medium is a tape-shaped recording medium capable of recording digital video information.

4. (Original) The video recording apparatus according to claim 1,
wherein the recording means records the composite video image and the additional information onto the same recording medium.

5. (Original) The video recording apparatus according to claim 1,
wherein the supplied video images are video images intermittently captured by switching the video images outputted from video supply sources in a time division manner.

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6. (Original) The video recording apparatus according to claim 1,

wherein the additional information includes at least one of supply source information indicative of each of supply sources of the supplied video images, recording date and time information indicative of date and time on/at which each of the video images is recorded, frame division configuration information indicative of the arrangement and the maximum number of reduced video images in the composite video image, recording apparatus identification information for identifying the video recording apparatus used for recording, and contents information regarding the contents of each of the reduced video images included in the composite video image.

7. (Original) The video recording apparatus according to claim 1,

wherein the supplied video images are video images outputted from a plurality of video cameras.

8. (Original) The video recording apparatus according to claim 7,

wherein the supplied video images are video images intermittently captured by switching the video images outputted from the video cameras in a time division manner.

9. (Original) The video recording apparatus according to claim 8,

wherein the additional information includes at least one of camera identification information for identifying each of the video cameras, camera name information indicative of the name given to each of the video cameras, recording date and time information indicative of date and time on/at which each of the video images is recorded, frame division configuration

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information indicative of arrangement and the maximum number of the reduced video images in the composite video image, the recording apparatus identification information for identifying the video recording apparatus used for recording and contents information regarding the contents of each of the reduced video images included in the composite video image.

10. (Previously Presented) A centralized monitoring recording system comprising:
- a plurality of input devices for capturing and outputting video images;
 - composite video image generating means for generating reduced signal video images, each comprising less than a complete screen by reducing the number of pixels to be displayed of each of a plurality of video images supplied from frames of each of a plurality of input data streams, a frame from only one of each of said plurality of input data streams being supplied at a time, and generating a composite video image by compositing the generated reduced video images in a substantially non-overlapping manner;
 - additional information generating means for generating additional information for each of the supplied video images;
 - dividing means for dividing a memory of said recording system into a plurality of blocks, each of said plurality of blocks having a reduced video image, said reduced video image of each block being a composite of images from each of said plurality of input streams;
 - recording means for recording the composite video image and the additional information onto a predetermined recording medium in such a manner of maintaining the correspondence between each of the reduced video images included in the composite video image and each additional information; and

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recording mode switching means for switching the recording from recording the composite video image to a full recording mode for recording one of said video images when a predetermined condition for said one of said video images is met.

11. (Previously Presented) A video recording method comprising the steps of:
generating reduced signal video images, each comprising less than a complete screen by reducing the number of pixels to be displayed of each of a plurality of video images supplied from frames of each of a plurality of input data streams, a frame from only one of each of said plurality of input data streams being supplied at a time and generating a composite video image by compositing the generated reduced video images in a substantially non-overlapping manner;

obtaining additional information for each of the supplied video images;

dividing means for dividing a memory of said recording apparatus into a plurality of blocks, each of said plurality of blocks having a reduced video image, said reduced video image of each block being a composite of images from each of said plurality of input streams;

recording the composite video image and the additional information onto a predetermined recording medium using said recording apparatus in such a manner of maintaining the correspondence between each of the reduced video images included in the composite video image and each additional information; and

switching the recording from recording the composite video image to a full recording mode for recording one of said video images when a predetermined condition for said one of said video images is met.

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12. (Original) The video recording method according to claim 11,
wherein the step of generating the composite video image includes a step of
performing a predetermined image compression to a video image obtained by combining the
reduced video images and outputting the compressed video image as the composite video image.

13. (Original) The video recording method according to claim 11,
wherein a tape-shaped recording medium capable of recording digital video
information is used as the predetermined recording medium.

14. (Original) The video recording method according to claim 11,
wherein the composite video image and the additional information are recorded
onto the same recording medium in the recording step.

15. (Original) The video recording method according to claim 11,
wherein the additional information includes at least one of supply source
information indicative of each of supply sources of the supplied video images, recording date
and time information indicative of date and time on/at which each of the video images is
recorded, frame division configuration information indicative of the arrangement and the
maximum number of reduced video images in the composite video image, recording apparatus
identification information for identifying a video recording apparatus used for recording, and
contents information regarding the contents of each of the reduced video images included in the
composite video image.

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16. (Original) The video recording method according to claim 11,
wherein the supplied video images are video images outputted from a plurality of
video cameras.

17. (Original) The video recording method according to claim 16,
wherein the additional information includes at least one of camera identification
information for identifying each of the video cameras, camera name information indicative of the
name given to each of the video cameras, recording date and time information indicative of date
and time on/at which each of the video images is recorded, frame division configuration
information indicative of arrangement and the maximum number of the reduced video images in
the composite video image, the recording apparatus identification information for identifying a
video recording apparatus itself used for recording and contents information regarding the
contents of each of the reduced video images included in the composite video image.

18. (Previously Presented) The video recording apparatus according to claim
1,
wherein said predetermined condition is a notification by an abnormality sensor
associated with said video image that detects an emergency.

19. (Previously Presented) The centralized monitoring recording system
according to claim 10,
wherein said predetermined condition is a notification by an abnormality sensor
associated with said video image that detects an emergency.

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20. (Previously Presented) The video recording method according to claim
11,
wherein said predetermined condition is a notification by an abnormality sensor
associated with said video image that detects an emergency.